2816

Please type a plus sign (+) inside this box → +

PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/211,469
Filing Date	Dec. 14, 1998
First Named Inventor	Oleg Drapkin
Group Art Unit	2816
Examiner Name	An T. Luu
Total Number of Pages in This Submission	15
Attorney Docket Number	0100.990020

ENCLOSURES *(check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☑ Amendment / Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Assignment Papers *(for an Application)*
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
- ☐ After Allowance Communication to Group
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to Group (*Appeal Notice, Brief, Reply Brief*)
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) *(please identify below)*:

return postcard

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Christopher J. Reckamp Reg. No. 34,414
Signature	/Christopher J. Reckamp/
Date	September 13, 2002

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: Sept. 13, 2002

Typed or printed name	Rosalie Swanson		
Signature	/Rosalie Swanson/	Date	September 13, 2002

#6/A 9/23/02 John H.

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Oleg Drapkin et al.	Examiner:	An T. Luu
Serial No.	09/211,469	Art Group:	2816
Filing Date:	Dec. 14, 1998	Our file no.	00100.99.0020
Confirmation No.	9874	Docket No.	0100.990020

Title: **SINGLE GATE OXIDE DIFFERENTIAL RECEIVER AND METHOD**

Box Non-fee Amendment
Assistant Commissioner for Patents
U.S. Patent and Trademark Office
Washington, D.C. 20231

Attn: Examiner An T. Luu

Certificate of First Class Mailing

I hereby certify that this paper is being sent via first class mail to: Box Non-fee Amendment, Assistant Comm. For Patents, U.S. Patent & Trademark Office, Washington, D.C. 20231 on this date.

9/13/02
Date:

Rosalie Swanson
Rosalie Swanson

AMENDMENT AND RESPONSE

Dear Sir:

In response to the Office Action dated June 13, 2002, Applicants respectfully submit the following Amendment and Response.

In the Specification:

On page 1, in the "Related Co-pending Applications" section, please delete the first paragraph beginning at line 9 and substitute therefor the following paragraph:

This is a related application to the following co-pending applications, filed on even date, having the same inventors and assigned to instant assignee:

1. Differential Input Receiver and Method for Reducing Noise, U.S. Patent No. 6,133,772, issued October 17, 2000, and having attorney docket no. 0100.990019;

2. Voltage Supply Discriminator and Method, U.S. Patent No. 6,297,683, issued October 2, 2001 and having attorney docket no. 0100.990017; and

Cont A1

3. Pre-buffer Voltage Level Shifting Circuit and Method, having serial number 09/211,496 and attorney docket no. 0100.990018.

On page 4, in the "Detailed Description of a Preferred Embodiment of the Invention" section, please delete the paragraph beginning at line 29 and substitute therefor the following paragraph:

A2

FIG. 2 illustrates one embodiment of an integrated differential receiver 100 having a single gate oxide differential receiver 102, a switchable voltage supply circuit 104 and an isolation output buffer 106. The switchable voltage supply circuit 104 receives as input, a desired I/O pad supply voltage 108 which may be a plurality of different supply voltages. For purposes of illustration only, the desired supply voltages may be, for example, 3.3 volts and 1.5 volts. The switchable voltage supply circuit 104 also receives another input such as a reference supply voltage 110 which may be for example the supply voltage for the core logic, such as 2.5 volts or other suitable reference voltage. In addition, the switchable voltage supply circuit 104 receives a control signal 112 which indicates an input signal voltage range, such as whether the input signal 114 to the differential receiver 102 will be in a range from 0 to 1.5 volts, or for example 0 to 3.3 volts. The control signal may be a signal from an input pin for the integrated circuit or may come from other suitable control logic on the integrated circuit. The switchable voltage supply circuit 104 selects a single gate oxide differential receiver supply voltage 116 for the single gate oxide differential receiver 102 based on the desired I/O pad supply voltage 108, the first reference voltage 110 and the control signal 112.

On page 5, please delete the paragraph beginning at line 15 and substitute therefor the following paragraph:

A3

The differential receiver 102 receives the input signal 114, for example, from an external chip. The input signal is received on one input of the single gate oxide differential receiver 102. On another input, the single gate oxide differential receiver 102 receives a reference voltage 117. The reference voltage 117 may be for example one half of the desired supply voltage 108, or any other suitable reference voltage. Based on the reference voltage 117 and the level of the input signal 114, the differential receiver outputs a received signal 118 to the isolation output buffer 106. The isolation output buffer 106 then outputs the signal 118 to the core logic.

On page 5, please replace the paragraph beginning at line 24 and substitute therefor the following paragraph:

In operation, the circuit provides either of at least an I/O pad supply voltage 108 and a reference supply voltage 110 for the single gate oxide differential receiver based on the control signal such that the reference supply voltage 110 is selected as the differential receiver supply voltage 116 when the control signal indicates a maximum input signal voltage to be less than the reference supply voltage 110. The circuit also provides the I/O pad supply voltage as the differential receiver supply voltage 116 when the control signal indicates a maximum input signal voltage to be greater than the reference supply voltage 110.

On page 6, please delete the paragraph beginning at line 11 and substitute therefor the following paragraph:

If however the desired I/O pad supply voltage is 1.5 volts as indicated by the I/O pad voltage 108, and if the control signal 112 indicates that the input voltage range is 0 to 1.5 volts, the switchable voltage supply circuit 104 selects a supply voltage 116 for the single gate oxide differential receiver that is different from the 1.5 volt I/O pad supply or input signal range. For example if the I/O pad 108 is indicated to be 1.5 volts by the control signal, the switchable voltage supply circuit 104 generates a 2.5 volt single gate oxide differential receiver supply voltage 116 for the differential receiver to maximize the speed of operation of the differential receiver 102. As such when a lower I/O pad supply voltage is used, the integrated differential receiver 100 automatically detects the level and outputs a higher supply voltage to the single gate oxide differential receiver. In one embodiment, the higher output voltage is equal to the first reference voltage 110.

In the claims:

Please delete Claims 3, 5, 11 and 17 without prejudice.

Please amend Claims 4, 10 and 14 as follows. In particular, please substitute the below claims for the same claims with like number.

Please add new Claims 18-21.